

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of determining whether the etiology of heart failure in a human test subject may relate to a mutation in a titin gene has, is at risk of developing, or has an increased likelihood of developing a titin-related disease or condition of the heart, said method comprising obtaining a sample from said test subject and analyzing a nucleic acid molecule of said sample to determine whether the test subject has a mutation in a naturally occurring human *titin* gene, wherein said analyzing of said gene comprises comparing the sequence encoded by said gene to the sequence of SEQ ID NO:2 and detecting any mutation present in the sequence encoded by said gene, and detection of the presence of said mutation is an indication that the etiology of said heart failure may relate to said mutation said test subject has, is at risk of developing, or has an increased likelihood of developing a titin-related disease or condition of the heart.
2. (Previously Presented) The method of claim 1, wherein said analyzing of said nucleic acid molecule comprises using nucleic acid molecule primers specific for the *titin* gene for nucleic acid molecule amplification of the *titin* gene by the polymerase chain reaction.
3. (Previously Presented) The method of claim 1, wherein said analyzing of said nucleic acid molecule comprises sequencing *titin* nucleic acid molecules from said test subject.

4-7. (Canceled).

8. (Withdrawn) A method for identifying a compound that can be used to treat or to prevent heart failure, said method comprising contacting an organism comprising a *titin* mutation and having a phenotype characteristic of heart failure with said compound, and determining the effect of said compound on said phenotype, wherein detection of an improvement in said phenotype indicates the identification of a compound that can be used to treat or to prevent heart failure.

9. (Withdrawn) The method of claim 8, wherein said organism is a zebrafish.

10. (Withdrawn) The method of claim 8, wherein said *titin* mutation is the *pickwick* mutation.

11. (Withdrawn) A method of treating or preventing heart failure in a patient, said method comprising administering to said patient a compound identified using the method of claim 8.

12. (Withdrawn) The method of claim 11, wherein said patient has a mutation in the *titin* gene.

13. (Withdrawn) The method of claim 12, wherein said mutation is the *pickwick* mutation.

14. (Withdrawn) A non-human animal comprising a mutation in a *titin* gene.

15. (Withdrawn) The non-human animal of claim 14, wherein the non-human animal is a zebrafish.

16. (Withdrawn) The non-human animal of claim 14, wherein the mutation is in a cardiac-specific exon of said *titin* gene.

17. (Withdrawn) The non-human animal of claim 16, wherein the mutation is in the N2B exon of said *titin* gene.

18. (Withdrawn) The non-human animal of claim 14, wherein the mutation results in the presence of a stop codon in said *titin* gene.

19. (Withdrawn) The non-human animal of claim 14, wherein the mutation is the *pickwick* mutation.

20. (Canceled).

21. (Previously Presented) The method of claim 1, wherein the mutation is in a cardiac-specific exon of said *titin* gene.

22. (Previously Presented) The method of claim 1, wherein the mutation is in the N2B exon of said *titin* gene.

23-32. (Cancelled).

33. (New) The method of claim 1, wherein said human test subject has congestive heart failure.

34. (New) The method of claim 1, wherein said human test subject has a condition selected from the group consisting of right ventricular heart failure, left ventricular heart failure, forward heart failure, backward heart failure, low-output heart failure, and high-output heart failure.